NONPOINT SOURCE TIMES

Volume 9, Issue 1 Winter 1999/2000

Mednuxnekeag Watershed Project Finishes Phase I

Ah finally we got it done, was my reaction as I viewed the installation of the last BMP for the Meduxnekeag Watershed Project - Phase I.

What made this project a bit challenging was the turnover of personnel at the sponsoring agency, the Southern Aroostook SWCD. The original project designer and coordinator moved on, and the District had a difficult time finding and holding onto the people they hired subsequently. But the District Supervisors and Don Collins, NRCS District Conservationist persevered and with the hiring of Tom Berry, the project is now complete.

This project is somewhat unique among the 319 projects as it grew out of both local interests in the river and point source discharger's concern that they were being forced to carry the burden for restoring the river. And although there have been fits and starts in the formation of the Meduxnekeag Coalition, the end result has been a small group of very committed individuals and organizations.

So what did the Project accomplish? As mentioned earlier, the District and DEP worked to create and support the virgining Meduxnekeag Watershed Coalition. The Coalition has hosted/organized: stream cleanups, educational open house/fair, watershed survey, poster contest for schools, workshops on forestry & road maintenance, brochure & place mat, and booths at local events.

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Inside This Issue

What's In a Name? With "NPS" It Is Hard to Tell

If anything is clear from the latest poll of public opinion, it's that the public's understanding of NPS pollution is unclear. Those of us who toil in the realm of government programs become far too comfortable with the jargon that goes with them. And while we use phrases such as, Nonpoint Source pollution, or just NPS, as a matter of convenience for ourselves, we then get careless and toss the phrases around with our customers under the assumption that they'll soon catch on. Take the name of this newsletter by way of example. Sure, the easy response is that you're one of us if you are reading this, and you know what we're talking about. But how many people glance at

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What Dottie Did On Her Summer Vacation

This summer Dottie Duddly, Easton School Teacher & Envirothon Coach, joined Leon Tsomides and Kathy Hoppe of the DEP for a day of macroinvertebrate sample collection in Aroostook County.

Although Dottie has been teaching for some 30 odd years her enthusiasm hasn't waned, in fact, she is always looking for new opportunities to teach her students about the environment. So when she heard DEP was sampling the waters in her "neighborhood" (Aroostook County) she asked if she could go along.

DEP's macroinvertebrate sampling protocol dictates that three samplers (in this case rock baskets) be set out in a riffle area of the stream. The rock basket remains there for 30 days, at which time staff returns and "cleans" the invertebrates off the basket and rocks, and preserves them to be sent away and analyzed. The process of cleaning conjures up the image of playing raccoon as you sit along the shore washing rocks and looking around. With 3 rock baskets and only 2 DEP staff, Dottie was a great help. Dottie became our third basket cleaner allowing us to move more quickly from site to site.

In the process of cleaning the baskets Dottie had a chance to learn macroinvertebrate identification from Leon and to compare stream sites and streams. Dottie hopes to apply what she learned to both the classroom and her coaching of Easton's Envirothon Team.

I would like to encourage others to invite a teacher along when investigating or inspecting environmental issues. It is a great teaching opportunity for us "experts" and a learning

Thoughts On Reaching out

The following is taken from a presentation by George Lord on working with volunteers and lake associations. Thank you George for sharing your experiences and insights – this is full of good information!

Some Thoughts on Reaching Out (and getting through)

Establish and Maintain a Strong Presence

- We are a program – not a project. We're here for the long haul.
- Establish an accessible physical location – not just a P.O. Box and phone line.
- Be available and offer services to all, not just shoreline people.
- Remember: Everybody has a vote, and it's their money!

Offer services that are meaningful to everyone

- Permitting
- Design assistance
- Development review
- Dealing with agencies
- Free hay bales, silt fence, etc.
- Coordinate projects for them (they don't know, and don't want to learn, "the ropes")

Maximize fairness

- Who's lake is it, anyway?
- Speak for the lake, not for any single group
- Everybody gives – everybody gets.

Be a catalyst and a hub

- Everybody has something to offer
- Never turn down a volunteer
  Survey work, Logo, Hay, Computer work, Newsletter preparation, Boats
- **Acknowledge their contributions PUBLICALLY**

Involve the kids

- They are tomorrow's planning board, selectmen, voters, construction workers, developers, etc.
- Conservation Corps – It's COOL!
- School Projects
  At risk kids – Stream Restoration
  High enders – Legislative Testimony

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Make friends with the press/media
- Local weekly – regular column
- Area daily – Local correspondent

Be with, not against, local government
- Be a resource – not a regulator.
- Work with Selectmen, Planning Board
- Help with ordinances.
- Land-Use decisions (be a free consultant)
- GOAL: "What would (your name here) have to say about this?"

Never turn down an opportunity to spread the word.
- Civic groups
- Lions
- Women's club
- Historical Society
- American Legion

Go to School
- Projects
- Papers
- Legislative Experience
- Teach classes

Do stuff the people appreciate, even if it isn't the highest water quality priority
- Shoreline cleanup
- Boat ramp rebuild
- Floating islands

Establish credibility and confidence
- Show your enthusiasm
- Don't get sucked in by a red herring
- Keep all promises
- There's no "right" or "wrong" way

The Goal: To guide everyone along this path:

Uninformed Knowledgeable Concerned Committed Active

The Challenge: We live this stuff…<u>everyone else doesn't.</u>

Strictly Speaking: What "Restoration" Means

(Editors Note. This article appeared in the Volunteer Monitor Newsletter.)

In this plenary address at a recent conference, William R. Jordan III - the editor of Ecological Restoration/North America (formerly Restoration and Management Notes) and a founding member of the Society for Ecological Restoration - offered some provocative comments about the meaning of the word "restoration." The following is based on his remarks:

Rehabilitation, reclamation, restoration, preservation - these are sister terms describing a family of management protocols. Some closely related terms are stewardship, healing, recovery, repair. I suggest we use them all- but let's be careful how we define them, because the language we use gets projected on the landscape and ultimately shapes it.

Restoration is the narrowest of these terms, and the most demanding. There is nothing mysterious about it, however. Everyone who speaks English knows what restoration means - it means putting something back the way it was. And not just setting the system back in place, but setting it in motion.

Once we define restoration this way, our goal is defined by history, and it's very strict, very hard-edged. "Rehabilitation" is different in this respect. When we rehabilitate a system - restore certain functions or features - we are restoring selectively. In most instances, we are restoring elements we happen to value and we are relating to nature *as a resource.*

Restoration, on the other hand, is a dialogue with nature *as given*. It is the only management paradigm that is committed specifically to the perpetuation of the landscape on its own terms. And this is a special kind of challenge. Ecologically it is a challenge because it means learning about the historic system and accurately recreating it - getting everything right in an ecological sense. And it is a challenge psychologically because it means setting aside our tastes and preferences (and even in a sense our creativity) and trying to *copy* nature - rattlesnakes, poison ivy, fire, and all. In this way, our relationship with the landscape becomes an exercise in humility and self-abnegation.

Restoration is important for both reasons. Ecologically, it is important because it is the best strategy for preservation - for ensuring the existence of historic eco-systems in the long run. And psychologically, it is important because it entails a uniquely active yet uniquely self-effacing relationship with

New NPS Projects Funded Under the Federal Clean Water Action Plan

In 1999 DEP received 1.1 million dollars more than previous annual 319 awards because of the new federal appropriations under the Clean Water Act. The Federal Clean Water Action Plan, February 1998, calls for increased actions to restore water quality. A central aspect of the plan is its set of actions that are designed to promoted a renewed focus to (1) identify watersheds with the most critical water quality problems, and (2) work together to focus resources and implement effective strategies to solve these problems. EPA directed States to use these new additional 319 funds to conduct projects to achieve demonstrable water quality improvements or restorations of waters as rapidly as possible. For further information contact Norm Marcotte, DEP.

The following is a description of the new NPS projects that were funded:

#99-R-29 Cobbossee Lake Restoration by Reduction of Phosphorus in Jock Stream
Problem: Cobbossee Lake fails to attain Class GPA standards due to use impairment caused by annual blue green algal blooms. Elevated phosphorus levels from Jock Stream comprise about 1/3rd of the phosphorus load to the lake.
Goal: Abate sediment and phosphorus export from agricultural land and roadways in the Jock Stream watershed. Reduce phosphorus in Jock Stream to increase water clarity and reduce the magnitude and duration of algal blooms in Cobbossee lake. The TMDL report (1995) set an interim phosphorus loading goal of 1500 Kg/yr for Jock Stream. To allow for climatic variations affecting annual water runoff, this load is translated to a volume-weighted average annual phosphorus concentration goal of 55 ppb phosphorus in Jock Stream.
Solutions: Abate watershed export of phosphorus attached to sediment by adopting improved livestock agricultural BMPs, i.e. manure storage facilities; heavy use area protection; nutrient management; cropland erosion control; livestock exclusion fencing & alternative water supplies; streambank stabilization and roadside drainage BMPs
Cost Estimates: phase I – 319 grant, $220,040; total with match $344,000,

#99R-30 Water Quality Restoration on the West Branch of the Sheepscot River
Problem: The West Branch fails to attain Class A standards for dissolved oxygen and bacteria. Atlantic Salmon populations have declined within the entire Sheepscot river, in part, due to sedimentation of spawning habitat areas, high water temperatures and other habitat factors. Atlantic Salmon in the Sheepscot river are managed as a "threatened species" to promote recovery under the Maine Atlantic Salmon Conservation Plan.
Goal: Restore water quality the West Branch to attain AA classification and support high quality aquatic habitat for indigenous species, including Atlantic salmon.
Solutions: Identify sources of sediment, nutrients, and bacteria in the watershed and inadequate riparian areas; provide technical and cost sharing assistance to prompt installation of roadside runoff BMPs to abate sedimentation; protect or restore riparian buffers; prompt installation of agricultural BMPs with EQIP or 319 funds; work with town CEOs to abate residential nonpoint sources.
Restoration: SVCA will continue water classification attainment monitoring and conduct localized monitoring to determine other important pollutant sources and demonstrate water quality response to installation of BMPs at 1 or 2 key sites nested within the watershed.
Cost Estimates: Phase I - 319 grant 319 $254,070; total with match $413,000

99R-31 Frost Gully Brook Watershed Retrofit Project (Phase I)

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the banner and walk away?

It's time to rethink our marketing strategy for the problem of water pollution that doesn't come from a pipe. We need to be clear to the public what is at issue. To do that means using straightforward language, even if it takes a little more time to do it. In most cases, when taking our message to the public, we really don't need a term that is technically as inclusive as "NPS" anyway.

I admit I've gotten very complacent in my use of "NPS", and I'm not really sure what kind of reception this newsletter would have if we re-christened it the "Polluted Runoff Times" but I do think it's time to raise the question. So how about it? Give us your ideas about how we should market the issue, and we'll give you the results in a future edition of the "_____ Times".

Please send ideas for a new NPS term/label to Don Witherill at don.t.witherill@state.me.us or

Happy 2000

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Problem: Brook fails to meet Class A standards for dissolved oxygen, bacteria, and aquatic life (benthic macroinvertebrates). Habitat assessment documents excessive sediment deposition and unstable streambanks caused by increased runoff from a rapidly urbanizing area. Bacteria in runoff threatens "open" status of shellfish harvest area in the Harraseeket River Estuary.
Goal: Attain Class A standards in brook, reduce pollutant loading to brook & estuary
Solutions: Install stormwater detention basins at 3 locations and retrofit 1 existing basin in downtown village area with a design objective of maximizing pollutant removal and reducing peak flows. Implement actions to achieve bacteria source reduction in the town, such as pet controls and street sweeping.
Cost Estimates: Grant phase I, $68,000, total with match $108,759; Phase II grant estimate $277,923.

99R-32 Meduxnekeag River Restoration Project - Phase I
Problem: A 6 mile segment of the river fails to attain class B standards for dissolved oxygen and bacteria (TMDL Report 1997) due to nonpoint sources and 2 licensed point sources. High phosphorous levels causes prolific attached algal growth especially in the Lowery Covered Bridge area. The algae appears in long stringy strands in many prime fishing areas. This algae impairs fishing. Bacteria measured in 5 brooks (1994 to 1997) near the river indicate nutrient loads in the brooks are an important part of the cause of the nonattainment in the river. The source of the bacteria and nutrients in the brooks appears to be runoff from livestock farms.
Goal: Help restore the water quality in the 6 mile segment of the Meduxnekeag river and improve water quality in 5 brooks that outlet into the river segment.
Solutions: Project will provide technical and cost sharing assistance to abate nutrient export from livestock farms within the brook watersheds by prompting installation of appropriate agricultural best management practices on the farms in the 5 brook watersheds.
Cost Estimates: Phase I, grant $174,505; total with match, 291,770. Phase II grant estimate $110,000.

99R-33 Nonpoint Source Education for Municipal Officials (NEMO)
Problem: Pollution from stormwater runoff has been identified as the most significant cause for non-attainment for Casco Bay Watershed's lakes, riverine, marine and estuarine waters (State of Maine 1996 Water Quality Assessment). NPS pollution results from the cumulative, incremental impacts of individual behaviors and local land use policies.
Goal: Project will test the utility and costs of targeted educational delivery methods to prompt communities to use BMPs to protect their water resources. The NEMO program was developed in Connecticut.
Solutions: Implement a NPS educational program for a targeted audience of local land use officials. The program will help them understand the nature of the problem and its impact on their lives, town and natural resource base; therefore, enabling them to plan for growth while addressing water quality through educated land use decisions. Encourage and establish collaborative relationships among regional and state agencies and land management-related organizations. Support the goals of the Casco Bay Estuary Project and the state NPS program. The pilot area will be Freeport and Gorham.
Sponsor: Cumberland County SWCD
Duration: 1 year
Cost Estimate: grant, $85,000; total with match, $164,656

99R-34 Tannery Brook Water Quality Assessment
Problem: Excess sediment loads, nutrients, elevated temperature, and increasing stream flows from an urban area (Gorham) has caused a decline in the brook trout fishery and habitat conditions. A dam and impoundment in the brook has reduced trout habitat.
Project Goal Quantitatively define the water quality problem and develop preliminary plans to implement actions to restore the brook and possibly remove the dam and impoundment.
Cost Estimate: grant, $26,016; total with match $47,380

99R-35 Develop Periphyton Biological Indicators for WQ Assessment –Phase I
Problem: Maine needs better assessment tools for discerning stream impairments caused by algae and excessive plant growth. Algal indicators may be an extremely useful tool in the development of point and NPS nutrient TMDLs. Algal biomass measures are commonly better correlated with public perceptions of problems than actual nutrient concentrations in streams.
Goal: Develop periphyton and macroscopic benthic algae biological indicators, to complement the existing use of benthic macroinvertebrates, to provide information about river and stream biological condition.
Cost Estimate: Grant $20,000.

99R-36 Ecosystem-level Effects of Roadway Runoff on Headwater Streams in Maine
Problem: Water quality monitoring indicated that Goosefare Brook in the vicinity of the Maine turnpike does not attain standards. In 1997, DEP funded a study of the stream in order to determine the cause of the problem. Possibilities included the turnpike and two industrial sites. The study revealed that while the majority of the pollution stress appeared to be coming from the industrial stormwater, the turnpike was also causing a decline in the health of the stream.

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EPA Approves Maine's NPS Control Program Upgrade & 15 Year Strategy

To Our Partners,
Congratulations! We all should take some satisfaction to hear that EPA considers Maine's NPS program as one of the best in the nation. See the summary below. We share big challenges ahead in our work to help ensure Maine has "Clean Water" resources for future generations. Clean water depends on its watershed and people who care for it. We all know we are only just beginning to build the watershed stewardship ethic that our society needs to conserve Maine's "Clean Water". Norm Marcotte, DEP

EPA Approves Maine's NPS Control Program Upgrade & 15 Year Strategy
On 10/13/99 John DeVillars, Regional Administrator, EPA approved Maine's NPS Control Program Upgrade and 15 Year Strategy. DeVillars said "We believe Maine's NPS program is exemplary. In fact, managers at our EPA Washington office, who have reviewed strategies from 40 States, consider Maine's plan as one of the best in the nation." The President's Clean Water Action Plan requires each state to update its plan for managing nonpoint source pollution in 1999, in order to qualify for watershed restoration grant money under Clean Water Act (Section 319). Maine's potential share for this program is $1.2 million for the year 2000.

NPS pollution is the largest type of pollution to surface waters, nationally and in Maine. Maine's NPS strategy aims to prevent or abate water by building local community awareness and commitment to protecting or improving water quality and by increasing compliance with water quality protection laws.

"EPA considers Maine's NPS Program as one of the best in the

The strategy document addresses:
- EPA's requirement that all states substantiate that their NPS water pollution control program is consistent with national EPA guidance, titled *Nine Key Elements of Effective and Dynamic State Nonpoint Source Management Programs*, and
- EPA and NOAA requirements, pursuant to Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 and related federal guidance, that each coastal state prepare a strategy to ensure implementation of NPS management measures to protect and improve water quality within 15 years of approval of the state's Coastal NPS Program. NOAA and EPA conditionally approved Maine's Coastal NPS Program, an element of Maine's statewide NPS Program, in 1998.

Maine coordinated development of a single, unified NPS program document in accordance with joint EPA-NOAA guidance dated March 11, 1999. This unified approach reflects the fact that the State intends to continue to plan, implement, and prioritize actions to address NPS problems on a statewide basis. The strategy was developed by DEP and the State Planning Office in consultation with State agencies and other partners. Under Maine's Nonpoint Source Pollution Program (38 M.R.S.A. §410-I), the following State agencies share responsibility for coordinating and implementing NPS programs: the Maine Departments of Agriculture Food and Rural Resources; Conservation (Maine Forest Service); Transportation; Human Services (Division of Health Engineering); and Marine Resources. This strategy document was endorsed by the Maine Land and Water Resources Council, which serves as the State's decision-making body for natural resource issues of interagency scope.

The Strategy is posted on the DEP website (www.state.me.us/dep) under Land and Water Bureau, Watershed Management

Bits-n-Pieces

Three Mile Pond Bloom
On Friday, August 27, Christine Smith and a cameraman from Maine PBS went to Three Mile Pond to document the worst bloom in about 4 years as part of a True North Episode. In the down wind coves the dying algae looked like a moving mosaic of white, tan, green and blue. Contact Christine Smith if you did not receive the digital photos by email. Dan Duborn the president of the China Lakes Region Alliance and President of the Three Mile Pond Association described the situation at Three Mile Pond. Students who spent the summer working for the Youth Conservation Corps were interviewed.

New Publication: Maine's Coastal Wetlands." Volume I Alison Ward has completed her two year NOAA Coastal Fellowship/ Mentorship with the publication of "Maine's Coastal Wetlands." Volume I is intended as an educational resource for persons not familiar with Maine's coastal environments. The general public and consultants might find Part I useful since it provides details specific to Maine. Part II is technical guidance for DEP project managers and professional consultants. Part II is hoped to promote submission of more complete NRPA and Site applications. Permitting decisions might then be made with

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More on Dollars & Sense: Economic Value of Lake Use and Water Quality

This article is writen by Roy Bouchard from a study not yet published but will be cited as: J. Scheutz, Bolye, K., and Bouchard, R. , Economic Values and Economic Impacts of Recreational Uses of Maine's Great Ponds, in prep.

A recently completed study by the University of Maine and DEP investigated the economic value of lake use and water quality to Maine residents who do not own lakefront property. These so-called access users represent only part of the total lake use, but are often overlooked in our public contacts because lake front property owners are the people we most often interact with. This work complements three previous studies investigating the effects of water quality on property values and on the total economic benefits of lake use in Maine. These earlier studies found that a decline in water clarity can reduce property values by as much as $200 per frontage foot, representing hundreds of millions of dollars in lost property value and that lake use in general supports more than 8000 Maine jobs.

This new study is a partial estimate of user's economic value and satisfaction because methods constrained estimates to only the most popular Maine lakes and could not include out-of -state users. Well over 200,000 Maine adults are access users on lakes annually. About 78% swim, 64 % recreate near the shore, 49% fish from a boat and roughly equal numbers (ca. 40%) use powerboats and canoes. Maine resident access users spend as much as $153 million annually on their recreation, 59% of which is spent in the communities nearest those lakes. This use supports as many as 3,000 jobs and generates in excess of $30 million income for Maine residents.

This study also found that access users place substantial value on their use of Maine lakes (between $7.6 and 17.8 million dollars) in excess of the cost to them of participation in fishing, swimming, camping etc. This satisfaction is negatively affected by reductions in water clarity and is greater on clear, large lakes than small, less clear waterbodies. Models derived from the survey results suggest that a 1/2 meter decline in the water clarity of the 143 most popular Maine lakes will result in a loss of up to half a million dollars in net economic benefit (user satisfaction) and $1.6 million in total sales activity associated with those lakes. The study also found evidence that these access users place an annual value of as much as $1.7 million on a statewide program to prevent a relatively small (1/2 meter) reduction in the current minimum water clarity. These same users placed a value of $6 million on a program designed to prevent a decline to bloom conditions on all lakes. This represents an annual willingness to pay as much as $13 per access user for the preservation of water quality.

From EPA's "Water News" (9/30/99)

"In response to requests from a variety of stakeholders, EPA has agreed to extend the public comment period on the proposed Total Maximum Daily Load (TMDL) rules by 60 days. The comment period will now end on December 22, 1999.

To view the rules, see WaterNews from August 19, 1999 or visit http://www.epa.gov/owow/tmdl on the Internet."

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Goal: Develop an assessment protocol using stream ecosystem parameters to help estimate the impact of roadway runoff pollutants on small streams to help develop TMDLs. Provide recommendations for mitigation of water quality impacts associated with current and future highway systems.
Cost Estimate: $45,836 total with match $67,362

Stream Team Pilot Program
Establish Stream Team Program the Casco Bay Estuary Project Watershed. The program is modeled after the Missouri program which provides information, coordination,

Rock lined water way from church parking lot and building.

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The SWCD worked with individuals and groups to install BMP demonstration projects around the watershed. Projects included stabilization at Carry Lake's public access & snow sled club site, a church in down town Houlton that sits right on the river bank, and at the golf course. They worked with farmers to install nutrient control structure and sediment basins. They also worked with the municipalities and camp road associations on road ditch stabilization. The District hosted a number of classes related to water quality issues through the Adult Education program, Potato Break Camp for students and worked with local teachers

The end result was the spreading or sprinkling of the message "Clean Water Starts With You" throughout the watershed and leading to a Phase II project focused on Pearce Brook and the South Branch, plus a Restoration project targeted at 5 tributaries with livestock issues. The Coalition has also continued their outreach activities and has a second place mat in the works depicting the watershed and asking related questions. And of course the best news is that interest groups that could have been advisories, point source dischargers, agriculture, fish & game club and the local Native Americans are working side by side for a common goal.

Nutrient basin.

Education/ outreach at a local fair.

NPS Grant RFP Planned for January 2000

The next Request For Proposals for NPS Pollution Control Project Grants will be announced in January 2000. Proposals will be due in April 2000. Maine public organizations such as state agencies, soil & water conservation districts, regional planning councils, watershed districts, municipalities and nonprofit organizations are eligible recipients. NPS Grants provide financial assistance to help conduct projects to reduce or prevent water pollution caused by nonpoint sources. Prevention or minimization of pollutant transport from land areas into surface or ground waters can be accomplished by applying an array of actions aimed at encouraging the widespread usage of best management practices.

For more information contact Norm Marcotte at 287-7727 or norm.g.marcotte@state.me.us

Rulemaking: Upcoming, current, and very recent L&W rulemakings are on the web so...pls check there. http://janus.state.me.us/dep/blwq/short.htm#rule
To get there without the link, go to L&W homepage, click on "Update", then click on "Rulemaking" (or just go to the L&W Site Index and look up "rulemaking".)

Publications: Site Law, Shoreland Zoning, and NRPA statutory handouts have been updated. There are new issues of the NPS Times and O&M Newsletter. The Bureau has six new or updated issue profiles/fact sheets. To find out what specific publications are new or recently updated at any time, go to: http://janus.state.me.us/dep/blwq/newpub.htm
To get there without the link, go to L&W homepage,

The Watershed Academy – An Education Tool

The following was taken from the web site: http://www.epa.gov/owow/watershed/wacademy/acad2000/intro.html Possible uses for this site include teachers and volunteers who would like to know more about watersheds.

Welcome to the Watershed Academy's Distance Learning Program. Academy 2000 is a set of self-paced training modules that provide a basic but broad introduction to the many facets of watershed management. Academy 2000 utilizes a variety of Internet-based formats, including:

- Slide show/lectures
- Interactive exercises
- On-line downloadable documents
- Hot links to related sites
- Interactive self-tests

These modules cover what we feel are the most important watershed management topics – those subjects about which watershed managers, local officials, involved citizens, decision makers, and others should have at least an introductory level of knowledge. Our goal has been to provide this basic but broad introduction to the watershed approach in a format available to anyone who has Internet access. The time and complexity of each module varies, but most are at the college freshman level of instruction. Completing a series of 15 of these modules will soon earn the Academy 2000 watershed training certificate (coming Fall 1999).

The topics covered in Academy 2000 are organized around the structure of our highly successful course Working at a Watershed Level. This course was designed by a working group

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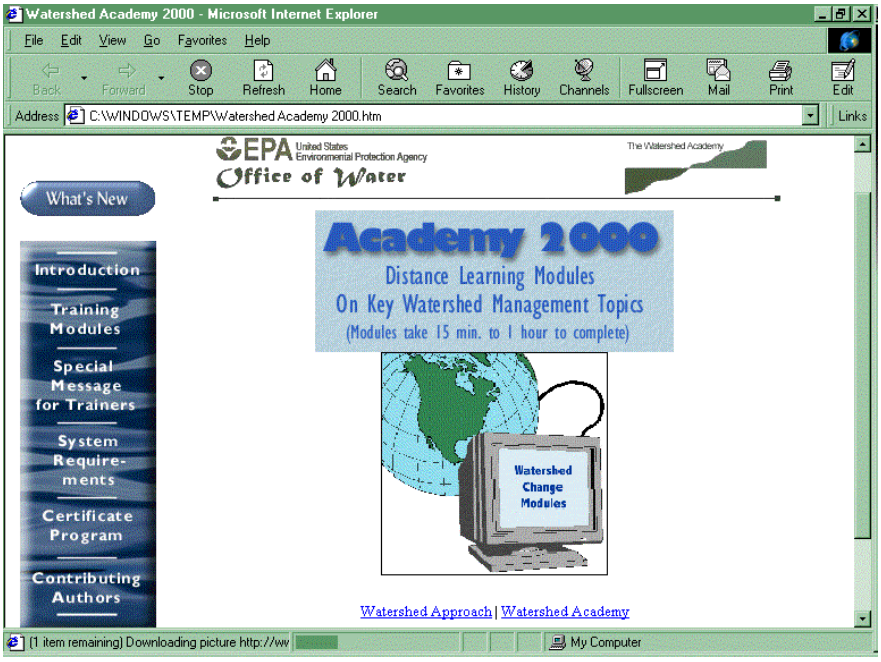

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more complete knowledge and thus more efficiently. Although, hard copies are limited, the next step is to put both volumes on CD and the web. For further information, contact John Sowles at (207) 6110.

NPS Workshop Protecting Clean Water With Watershed Stewardship Tools -- "We've Got the Tools! How Do We Put Em to Work?". DEP, the Lakes Environmental Association, and the New England Interstate Water Pollution Control Commission hosted this workshop September 21 & 22 in Bridgton. The workshop demonstrated methods of building watershed stewardship at the local level. The target audience were professionals and volunteers involved in NPS control and watershed management. About 42 people attended.

The agenda featured presentations from 3 excellent nongovernmental local stewardship organizations here in Maine - The Lakes Environmental Association (LEA), the Thompson Lake Environmental Association (TLEA) and the China Region Lakes Alliance. Field trips were run to show BMPs installed (erosion & sediment control, buffers) under the "Thompson Lake Watershed 319 Project" conducted by the TLEA, and the Highland Lake Watershed 319 Project conducted by the LEA. DEP's David Ladd spoke about

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E. STANCIOFF WINS HARTMAN AWARD

Among the winners of this year's Maryann Hartman awards is Esperanza Stancioff, director of the Cooperative Extension Clean Water Program. The awards are given to women who have taken leadership roles in their communities through environmental or human rights activities. Stancioff coordinates efforts to monitor Maine's coastal waters and has inspired hundreds of citizens to protect the coastal environment. Other winners are Donna Loring of the Penobscot Nation and Glenna Smith of Presque Isle.

Congratulations to all!

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of watershed professionals from eight federal agencies, state and local governments, and academicians, and it presents the same basic but broad, multidisciplinary topical coverage found in Academy 2000. The course Working at a Watershed Level and Academy 2000 both follow the six themes and educational messages below:

- **Introduction/Overview.** These modules introduce the principles of the watershed approach and justify the values of working at a watershed level.
- **Watershed Ecology.** These modules show that watersheds are natural systems, whose structure and functions provide substantial benefits to people and the environment when allowed to operate properly.
- **Watershed Change.** These modules describe both natural and human-induced changes in watersheds, and the concepts of change vs. change of concern.
- **Analysis and Planning.** These modules address how watershed problems are analyzed as a first step toward finding solutions.
- **Management Practices.** These modules present overviews of the ways in which the common categories of watershed management challenges -- urban runoff issues, cropland management, forestry and other issues -- are addressed by techniques that reduce or control negative environmental impacts.
- **Community/Social Context.** These modules concentrate on the human element of watershed management, in recognition that community support

New Useful Additions to EPA's Web Site

The following are some new useful additions to the EPA Office of Wetlands, Oceans and Watersheds(OWOW)/ Watershed Academy's" Academy 2000" web site (www.epa.gov/owow/watershed/wacademy/acad2000.html), under "What's New"

The Center for Watershed Protection's, "The (8) Tools of Watershed Protection" which contains the entire text w/visuals of Chapter 2 of the "Rapid Watershed Planning Handbook", (Tom Schueler). Contents include "tools' for watershed planning, land conservation, aquatic buffers, better site design, erosion and sediment control, stormwater best management practices, non-stormwater discharges, and watershed stewardship programs.

There are also three Internet sources of watershed approach visuals of a great variety:

1. The watershed academy's Academy2000 site (owow/watershed/wacademy/acad2000.html) is up to about 20 modules now with as many as 50 slides in some modules (graphics and photos). About 98% are copyright-free.

2. The stream corridor restoration document site (http://www.usda.gov/stream_restoration) has not only the PDF files for the whole document but also FULL RESOLUTION DOWNLOADABLE FILES of every graphic in the book; follow the menu to find these. Beware of which ones are permission-only copyrighted works.

3. The CWAP 61 showcase website (owow/showcase/) has real life photos and diagrams and stories of successful restored watersheds selected by an interagency panel. Many photos

Looking for a certified Septic System Installer?

DHS has an up-to-date list at the following web site.
Http://janus.state.me/dhs/eng/plumb/plumb.htm

For more information on the program you can give me a call or call Jim Jacobsen (DHS) at (207) 287-5338.

What do our Customers think about Water Pollution?

In an effort to better understand our audience, utilize what few education dollars DEP has, and to better target our message, the Nonpoint Source Program has been involved in market research. The most recent results from participating in Market Research's phone survey indicate that there is a large gap between what DEP staff understand to be water quality problems and what the public perceives to be polluting the water. The data also shows regulated activities (Stormwater, Erosion Control and NRPA) are not areas that the general public rates high as polluting the water in their neighborhood. (Table 1)

Even when provided options the general public chose pollutants other than DEP's Bureau of Land & Water Quality's recent "hot topics" of soil erosion and stormwater. Neither of these is a top of the mind threat or chosen from a knowledge-based question as a threat. One possible reason might be that erosion & stormwater are both perceived to be "natural" occurrences as compared to spilled oil products which are not natural and are perceived to have more "danger".

- 1/3rd of the general public can not name any source of water pollution in their neighborhood. (Table 1)
- Actions that the general public believes will improve water quality, are not the top activities that DEP is actively regulating (NRPA, Stormwater, Site, Erosion Control). (Table 2)
- The general public lacks confidence in their knowledge of threats to water quality as shown by 7.4% and 23.4% of the public unwilling to name the greatest and second greatest threat when provided a multiple choice question. (Table 4)

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Table 1. Four years of top answers to Omnibus Survey.

1996	1997	1998	1999
Don't know (34%)	Don't know (21%)	Don't know (33%)	Don't know (37%)
Septic systems (17%)	Septic systems (21%)	Septic systems (15%)	Septic systems (16%)
Household Chem. (12%)	Litter/trash (18%)	Auto oil/gas/antifreeze (11%)	Auto oil/gas/antifreeze (14%)
Litter/trash (12%)	Sludge/landfills (16%)	Sludge/landfills (10%)	Household Chem. (10%)
Auto oil/gas/antifreeze (10%)	Household Chem. (13%)	Boat pump-out (10%)	Fertilizer (9%)
Sludge/landfills (8%)	Auto oil/gas/antifreeze (12%)	Litter/trash (8%)	Pesticides/herbicide (9%)
Boat pump-out (7%)	Boat pump-out (12%)	Household Chem. (8%)	Agriculture (8%)
Agriculture (5%)	Pesticides/herbicide (10%)	Pesticides/herbicide(7%)	Litter/trash (8%)
Pesticides/herbicide (5%)	Fertilizer (8%)	Agriculture (7%)	Boat pump-out (8%)
Fertilizer (4%)	Agriculture (6%)	Fertilizer (6%)	Acid rain/air pollution (6%)

[1] Sampling error of 4.9%.

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Maine's NPS Watershed Survey methods. Maine Public Television collected footage from the LEA "Hey You" cruise on Long Lake in Bridgeton for usage in a True North episode to show next spring. Contact: Norm Marcotte at (207) 287-7727 for more information.

Outdoor Heritage Fund Grant (biological diversity assessment). The Department was awarded a $63,000 grant from the Outdoor Heritage Fund to conduct “An Assessment of Freshwater Biological Diversity in Maine”. The study is a cooperative project with the Department of Inland Fisheries and Wildlife and The Nature Conservancy. The project will assemble existing information on biodiversity into an available database, identify critical gaps in our knowledge, identify “hot spots” of aquatic diversity and identify opportunities for conservation management. Contact: David Courtemanch 287-7789.

Gulf Island Pond. Staff from the L&W Bureau (DEAA and DWRR) met with a stakeholder group to discuss the resolution of water quality problems in Gulf island Pond (Androscoggin River). The Bureau has proposed a change in the dissolved oxygen regulation recognizing that the problems in some impoundments may be associated with mixing

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- It may be that threats to water quality are determined via "unnatural" vs. natural. Another words, petroleum products, fertilizers and septic systems are "unnatural" while soil erosion is natural.
- The news media may play an important roll in determining what the public views as a real threat. (*Soil erosion doesn't get the news coverage that the other items do. Ships leaking oil, fertilizers washed off farms from hurricanes, sewage over flows or pipe breaks all repeatedly make the news. Thus, if we would like the public to think soil erosion is a real pollutant, a threat to our water resources - do we need to get more news coverage? Should we actively take advantage of boil orders? Road wash outs?)*

Question 1 (repeat - fourth year this same question has been asked): What common practices and activities in homes and communities, other than factories, are you aware of that contribute to water pollution in Maine?

The changes worth noting include:

- Sludge/landfills was mentioned in '97 & '98 at 16% & 10%, but was never mentioned in the 1999 survey. *(I believe this follows the news coverage in Southern Maine.)*
- Bacterial contamination has never been mentioned before. *(Again this may be a reflection of news coverage.)*

Question 2 (new question): What action can you

Proper disposal of chemicals/laundry products/don't	21.9%
Don't pollute lakes/rivers/streams/wetlands[2]	12.5%
Spread awareness about polluting activities/contact	11.8%
Not use fertilizers/pesticides/ do organic farming	10.8%
Recycle/use more natural/environmentally safe prod-	9.6%
Proper disposal of oil/don't dump oil on ground/tune	7.1%
Make sure septic system is in good condition/	6.1%
There is nothing I can do	5.8%

[2] Unfortunately this is not a specific action. Not sure how to interpret this response.

Not statistically significant but interesting - the following were mentioned:

Less boating/jet ski (2.9%)
Drink spring water rather than tap (0.5%)
Don't over develop land/protect watersheds from development (0.2%)
Purchase gasoline in another state (0.2%)
Don't clear-cut within 200 feet of the waters edge (0.2%)
Control erosion around lakes (0.2%)

The 5.8% who said, "there is nothing I can do" indicate a lack of ownership/personal responsibility and control over water quality.

Question 3 (new): Which one of the following pollutants do you think represents the greatest threat to water quality in Maine?

Table 4. Greatest threat to water quality in Maine.

Spilled gas/oil products	35.4%
Fertilizer	19.9%
Failing septic systems	17.7%
Waste discharge from boats	11.3%
Eroded soil	8.4%
None of the above	1.5%
Don't Know	5.7%
Refused to answer	0.2%

A total of 7.4% either said none of the above, don't know or refused to answer the question. Don't know was a full 5.7%. *(Thus, indicating a significant lack of confidence in their knowledge of the subject.)*

Question 4 (new): Which one of these do you think represents the second greatest threat to water quality in Maine?

Spilled gas/oil products	22.6%
Fertilizer	16.5%
Failing septic systems	15.2%
Waste discharge from boats	14.5%
Eroded soil	7.9%
None of the above	1.7%
Don't Know	2.5%
Refused to answer	19.2%

23.4% either said none of the above, don't know or refused to answer the question. *(According to Market Decisions this shows a lack of knowledge.)*

Calendar of Events

February 25/26, 2000. Water Sensitive Ecologial Planning & Design. Presented by Harvard University Graduate School of Design, Department of Landscape Architecture. For more information contact: Professor Robert France, (617) 496-0915 or rfrance@gsd.harvard.edu

Resources Available

Groundwater Guardian Program by the Groundwater Foundation. For information contact the GWF at (800)854-4844 or email rachael@groundwater.org

Hydrolic Soils Book. For a copy contact NEIWPCC Wetlands Workgroup, 255 Ballardvale St., Wilmington, MA 01887 or (978)658-0500.

National List of Vascular Plants Species That Occur in Wetlands. For a copy contract: Fish and Wildlife Services, National Wetlands Inventory, Suite 101 Monroe Building, 9720 Executive Center Dr., St. Petersburg, FL 33702-2440. Or down load off: www.nwi.fws.gov/ecology.htm

Clean Water Starts With You Calendar. Maine DEP has once again created a poster size calendar with pictorial illustrations of water related issues. The 2000 calendar is available by contacting Marianne Dubois at Maine DEP 287-2115.

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characteristics not applicable to the standard, however, complete remediation of the GIP problem may still require additional treatment, flow management or in-pond restoration techniques. The proposed regulation change has been temporarily withdrawn while the group examines new data from 1999 monitoring and considers their position on this regulation change. Another meeting is scheduled for December 3. Contact: Barry Mower 287-7777.

Outdoor Heritage Fund Grant (exclusion project). The Department was awarded a $21,775 grant from the Outdoor Heritage Fund to assist the town of Portage Lake with a buffer/goose exclusion project for their beach & playground area. This is a cooperative project with the Department of Inland Fisheries, the Portage Lake Association, Irving Woodlands Corp., and the

Web Sites of Interest

American Indian Environmental Office: http://www.epa.gov/indian/

Livable Comunities: http://tis.eh.doe.gov/livablecommunity/index2.html

A Virtual Library of Environmental Resouces: http://earthsystems.org/Environment.shtml

A Glossary of Water Resouce Terms: http://www.edwardsaquifer.net/glossary.html

Water Quality Database Browser: http://hermes.ecn.purdue.edu:8001/server/water/bib/browse.html

Water Science: http://water.

This newsletter is prepared by the Maine DEP for our partners involved in NPS pollution issues. The goal of the NPS Times is to provide updates of NPS related topics from around the state, within the DEP and the federal government. It is funded through an EPA 319 Clean Water Act Grant. If you have any announcements or items for the NPS Times, or if you would like to be added to the mailing list, please contact:
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